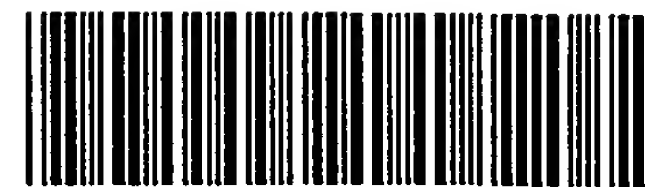


## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 0919761673A  
Source: IFW16  
Date Processed by STIC: 4-4-06

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IFW16

## RAW SEQUENCE LISTING

DATE: 04/04/2006

PATENT APPLICATION: US/09/976,673A

TIME: 08:28:26

Input Set : F:\SEQLIST.TXT

Output Set: N:\CRF4\04042006\I976673A.raw

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4 <110> APPLICANT: Clontech Laboratories Inc.
6 <120> TITLE OF INVENTION: FAR RED SHIFTED FLUORESCENT PROTEINS
9 <130> FILE REFERENCE: CLON-028WO
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/976,673A
12 <141> CURRENT FILING DATE: 2001-10-12
14 <150> PRIOR APPLICATION NUMBER: 60/240,018
15 <151> PRIOR FILING DATE: 2000-10-12
17 <150> PRIOR APPLICATION NUMBER: 60,306,131
18 <151> PRIOR FILING DATE: 2001-07-16
20 <160> NUMBER OF SEQ ID NOS: 28
22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 910
26 <212> TYPE: DNA
27 <213> ORGANISM: heteractis crispa
29 <400> SEQUENCE: 1
30 accatttgct ttggttcctt ggcaaacgaa agtttagaac gaaaactgac ccaaattaca 60
31 tcttcctcct ggatccttac catggctggt ttgttgaaag aaagtatgcg catcaagatg 120
32 tacatggaag gcacgggttaa tggccattat ttcaagtgtg aaggagaggg agacggcaac 180
33 ccattttacag gtacgcagag catgaggatt catgtcaccg aaggggctcc attaccattt 240
34 gccttcgaca ttttggcacc gtgttgtgag tacggcagca ggacctttgt ccaccatacg 300
35 gcagagattc ccgatttctt caagcagtct ttccctgaag gctttacttg ggaaagaacc 360
36 acaacctatg aagatggagg cattcttact gctcatcagg acacaagcct ggaggggaac 420
37 tgccttatat acaaggtgaa agtccttggt accaattttc ctgctgatgg ccccgatgatg 480
38 aagaacaaat caggaggatg ggagccatgc actgagggtg tttatccaga gaatggtgtc 540
39 ctgtgtggac gtaatgtgat ggcccttaaa gtcggtgatc gtcgtttgat ctgccatctc 600
40 tatacttctt acaggtccaa gaaagcagtc cgtgccttga caatgccagg atttcatttt 660
41 acagacatcc gccttcagat gccgaggaaa acgaaagacg agtactttga actgtacgaa 720
42 gcatctgtgg ctaggtacag tgatcttcct gaaaaagcaa attgattgtt cccagtgaca 780
43 ccagactgct gtcagctttt ggtaaagcc cgaaagacaa aaggacattt gtagtttagt 840
44 ttatatattc ctttcatttg tgaatcaaca ttgtactctc tgtaaacctt taaaatgctc 900
45 cattaaacct                                     910
47 <210> SEQ ID NO: 2
48 <211> LENGTH: 227
49 <212> TYPE: PRT
50 <213> ORGANISM: heteractis crispa
52 <400> SEQUENCE: 2
53 Met Ala Gly Leu Leu Lys Glu Ser Met Arg Ile Lys Met Tyr Met Glu
54 1 5 10 15
55 Gly Thr Val Asn Gly His Tyr Phe Lys Cys Glu Gly Glu Gly Asp Gly
56 20 25 30
57 Asn Pro Phe Thr Gly Thr Gln Ser Met Arg Ile His Val Thr Glu Gly
58 35 40 45

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## RAW SEQUENCE LISTING

DATE: 04/04/2006

PATENT APPLICATION: US/09/976,673A

TIME: 08:28:26

Input Set : F:\SEQLIST.TXT

Output Set: N:\CRF4\04042006\I976673A.raw

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59 Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu Ala Pro Cys Cys Glu Tyr
60      50                      55                      60
61 Gly Ser Arg Thr Phe Val His His Thr Ala Glu Ile Pro Asp Phe Phe
62 65                      70                      75                      80
63 Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Thr Tyr
64                      85                      90                      95
65 Glu Asp Gly Gly Ile Leu Thr Ala His Gln Asp Thr Ser Leu Glu Gly
66                      100                      105                      110
67 Asn Cys Leu Ile Tyr Lys Val Lys Val Leu Gly Thr Asn Phe Pro Ala
68                      115                      120                      125
69 Asp Gly Pro Val Met Lys Asn Lys Ser Gly Gly Trp Glu Pro Cys Thr
70                      130                      135                      140
71 Glu Val Val Tyr Pro Glu Asn Gly Val Leu Cys Gly Arg Asn Val Met
72 145                      150                      155                      160
73 Ala Leu Lys Val Gly Asp Arg Arg Leu Ile Cys His Leu Tyr Thr Ser
74                      165                      170                      175
75 Tyr Arg Ser Lys Lys Ala Val Arg Ala Leu Thr Met Pro Gly Phe His
76                      180                      185                      190
77 Phe Thr Asp Ile Arg Leu Gln Met Pro Arg Lys Thr Lys Asp Glu Tyr
78                      195                      200                      205
79 Phe Glu Leu Tyr Glu Ala Ser Val Ala Arg Tyr Ser Asp Leu Pro Glu
80      210                      215                      220
81 Lys Ala Asn
82 225
85 <210> SEQ ID NO: 3
86 <211> LENGTH: 908
87 <212> TYPE: DNA
88 <213> ORGANISM: heteractis crispa
90 <400> SEQUENCE: 3
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92 cctcctgata cttaccatgg ctggtttggt gaaagaaagt atgcgcatca agatgtacat 120
93 ggaaggcacg gttaatggcc attatttcaa gtgtgaagga gagggagacg gcaacccatt 180
94 tacaggtacg cagagcatga ggattcatgt caccgaaggg gctccattac catttgcctt 240
95 cgacattttg gcaccgtgtt gtgagtacgg cagcaggacc tttgtccacc atacggcaga 300
96 gattccccgat ttcttcaagc agtctttccc tgaaggcttt acttgggaaa gaaccacaac 360
97 ctatgaagat ggaggcattc ttactgctca tcaggacaca agcctggagg ggaactgcct 420
98 tatatacaag gtgaaagtcc ttggtaccaa ttttctgct gatggccccg tgatgaagaa 480
99 caaatcagaa ggatgggagc catgcactga ggtgggttat ccagataatg gtgtcctgtg 540
100 tggacgtaat gtgatggccc ttaaagtcgg tgatcgctgt ttgatctgcc atctctatac 600
101 ttcttacagg tccaagaaag cagtccgtgc cttgacaatg ccaggatttc attttacaga 660
102 catccgcctt cagatgccga ggaaaacgaa agacgagtag tttgaactgt acgaagcatc 720
103 tgtgggctagg tacagtgatc ttcctgaaaa agcaaattga ttgttcccag tgacaccaga 780
104 ctgctgtcag cttttgggta aagcccgaag gacaaaagga catttgtagt tttagtttat 840
105 attttccctt tcattttgtg aatcaacatt gtactctctg taaaccttta aaatgctcca 900
106 ttaaacct 908
108 <210> SEQ ID NO: 4
109 <211> LENGTH: 227
110 <212> TYPE: PRT
111 <213> ORGANISM: heteractis crispa

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## RAW SEQUENCE LISTING

DATE: 04/04/2006

PATENT APPLICATION: US/09/976,673A

TIME: 08:28:26

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Output Set: N:\CRF4\04042006\I976673A.raw

113 &lt;400&gt; SEQUENCE: 4

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114 Met Ala Gly Leu Leu Lys Glu Ser Met Arg Ile Lys Met Tyr Met Glu
115 1 5 10 15
116 Gly Thr Val Asn Gly His Tyr Phe Lys Cys Glu Gly Glu Gly Asp Gly
117 20 25 30
118 Asn Pro Phe Thr Gly Thr Gln Ser Met Arg Ile His Val Thr Glu Gly
119 35 40 45
120 Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu Ala Pro Cys Cys Glu Tyr
121 50 55 60
122 Gly Ser Arg Thr Phe Val His His Thr Ala Glu Ile Pro Asp Phe Phe
123 65 70 75 80
124 Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Thr Tyr
125 85 90 95
126 Glu Asp Gly Gly Ile Leu Thr Ala His Gln Asp Thr Ser Leu Glu Gly
127 100 105 110
128 Asn Cys Leu Ile Tyr Lys Val Lys Val Leu Gly Thr Asn Phe Pro Ala
129 115 120 125
130 Asp Gly Pro Val Met Lys Asn Lys Ser Glu Gly Trp Glu Pro Cys Thr
131 130 135 140
132 Glu Val Val Tyr Pro Asp Asn Gly Val Leu Cys Gly Arg Asn Val Met
133 145 150 155 160
134 Ala Leu Lys Val Gly Asp Arg Arg Leu Ile Cys His Leu Tyr Thr Ser
135 165 170 175
136 Tyr Arg Ser Lys Lys Ala Val Arg Ala Leu Thr Met Pro Gly Phe His
137 180 185 190
138 Phe Thr Asp Ile Arg Leu Gln Met Pro Arg Lys Thr Lys Asp Glu Tyr
139 195 200 205
140 Phe Glu Leu Tyr Glu Ala Ser Val Ala Arg Tyr Ser Asp Leu Pro Glu
141 210 215 220
142 Lys Ala Asn
143 225

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146 &lt;210&gt; SEQ ID NO: 5

147 &lt;211&gt; LENGTH: 684

148 &lt;212&gt; TYPE: DNA

149 &lt;213&gt; ORGANISM: heteractis crispa

151 &lt;400&gt; SEQUENCE: 5

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152 atggctggtt tgttgaaaga aagtatgctc atcaagatgt acatggaagg cacggttaat 60
153 ggccattatt tcaagtgtga aggagaggga gacggcaacc catttacagg tacgcagagc 120
154 atgaggattc atgtcaccga aggggctcca ttaccatttg ccttcgacat tttggcaccg 180
155 tggtgtgagt acggcagcag gacctttgtc caccatacgg cagagattcc cgatttcttc 240
156 aagcagtctt tccctgaagg ctttacttgg gaaagaacca caacctatga agatggaggg 300
157 attcttactg ctcatcagga cacaagcctg gaggggaact gccttatata caaggtgaaa 360
158 gtccttggtg ccaattttcc tgctgatggc cccgtgatga agaacaatc aggaggatgg 420
159 gagccaagca ctgaggtggt ttatccagag aatggtgtcc tgtgtggacg taatgtgatg 480
160 gcccttaaag tcggtgatcg tcgtttgatc tgccatctct atacttctta caggtccaag 540
161 aaagcagtcc gtgccttgac aatgccagga ttctatttta cagacatccg ccttcagatg 600
162 ccgaggaaaa cgaaagacga gtactttgaa ctgtacgaag catctgtggc taggtacagt 660
163 gatcttctctg aaaaagcaaa ttga 684
165 <210> SEQ ID NO: 6

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## RAW SEQUENCE LISTING

DATE: 04/04/2006

PATENT APPLICATION: US/09/976,673A

TIME: 08:28:26

Input Set : F:\SEQLIST.TXT

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166 &lt;211&gt; LENGTH: 227

167 &lt;212&gt; TYPE: PRT

168 &lt;213&gt; ORGANISM: heteractis crispa

170 &lt;400&gt; SEQUENCE: 6

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171 Met Ala Gly Leu Leu Lys Glu Ser Met Arg Ile Lys Met Tyr Met Glu
172 1 5 10 15
173 Gly Thr Val Asn Gly His Tyr Phe Lys Cys Glu Gly Glu Gly Asp Gly
174 20 25 30
175 Asn Pro Phe Thr Gly Thr Gln Ser Met Arg Ile His Val Thr Glu Gly
176 35 40 45
177 Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu Ala Pro Cys Cys Glu Tyr
178 50 55 60
179 Gly Ser Arg Thr Phe Val His His Thr Ala Glu Ile Pro Asp Phe Phe
180 65 70 75 80
181 Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Thr Tyr
182 85 90 95
183 Glu Asp Gly Gly Ile Leu Thr Ala His Gln Asp Thr Ser Leu Glu Gly
184 100 105 110
185 Asn Cys Leu Ile Tyr Lys Val Lys Val Leu Gly Thr Asn Phe Pro Ala
186 115 120 125
187 Asp Gly Pro Val Met Lys Asn Lys Ser Gly Gly Trp Glu Pro Ser Thr
188 130 135 140
189 Glu Val Val Tyr Pro Glu Asn Gly Val Leu Cys Gly Arg Asn Val Met
190 145 150 155 160
191 Ala Leu Lys Val Gly Asp Arg Arg Leu Ile Cys His Leu Tyr Thr Ser
192 165 170 175
193 Tyr Arg Ser Lys Lys Ala Val Arg Ala Leu Thr Met Pro Gly Phe His
194 180 185 190
195 Phe Thr Asp Ile Arg Leu Gln Met Pro Arg Lys Thr Lys Asp Glu Tyr
196 195 200 205
197 Phe Glu Leu Tyr Glu Ala Ser Val Ala Arg Tyr Ser Asp Leu Pro Glu
198 210 215 220
199 Lys Ala Asn
200 225

```

203 &lt;210&gt; SEQ ID NO: 7

204 &lt;211&gt; LENGTH: 684

205 &lt;212&gt; TYPE: DNA

206 &lt;213&gt; ORGANISM: heteractis crispa

208 &lt;400&gt; SEQUENCE: 7

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209 atgtctgggtt tggtgaaaga aagtatgctc atcaagatgt acatggaagg cacggttaat 60
210 ggccattatt tcaagtgtga aggagaggga gacggcaacc catttgcagg tacgcagagc 120
211 atgaggattc atgtcaccga aggggctcca ttaccatttg ccttcgacat tttggcaccg 180
212 tgttgtgagt acggcagcag gacctttgtc caccatacgg cagagattcc cgatttcttc 240
213 aagcagtctt tccctgaagg ctttacttgg gaaagaacca caacctatga agatggaggc 300
214 attcttactg ctcatcagga cacaagcctg gaggggaact gccttatata caaggtgaaa 360
215 gtccttggtta ccaattttcc tgctgatggc cccgtgatga agaacaaatc aggaggatgg 420
216 gagccaagca ctgaggtggt ttatccagag aatggtgtcc tgtgtggacg taatgtgatg 480
217 gcccttaaag tcggtgatcg tcgtttgatc tgccatcact atacttctta caggtccaag 540
218 aaagcagtcc gtgccttgac aatgccagga tttcatttta cagacatccg ccttcagatg 600

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## RAW SEQUENCE LISTING

DATE: 04/04/2006

PATENT APPLICATION: US/09/976,673A

TIME: 08:28:26

Input Set : F:\SEQLIST.TXT

Output Set: N:\CRF4\04042006\I976673A.raw

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219 ctgaggaaag agaaagacga gtactttgaa ctgtacgaag catctgtggc taggtacagt 660
220 gatcttcctg aaaaagcaaa ttga 684
222 <210> SEQ ID NO: 8
223 <211> LENGTH: 227
224 <212> TYPE: PRT
225 <213> ORGANISM: heteractis crispa
227 <400> SEQUENCE: 8
228 Met Ser Gly Leu Leu Lys Glu Ser Met Arg Ile Lys Met Tyr Met Glu
229 1 5 10 15
230 Gly Thr Val Asn Gly His Tyr Phe Lys Cys Glu Gly Glu Gly Asp Gly
231 20 25 30
232 Asn Pro Phe Ala Gly Thr Gln Ser Met Arg Ile His Val Thr Glu Gly
233 35 40 45
234 Ala Pro Leu Pro Phe Ala Phe Asp Ile Leu Ala Pro Cys Cys Glu Tyr
235 50 55 60
236 Gly Ser Arg Thr Phe Val His His Thr Ala Glu Ile Pro Asp Phe Phe
237 65 70 75 80
238 Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Thr Thr Thr Tyr
239 85 90 95
240 Glu Asp Gly Gly Ile Leu Thr Ala His Gln Asp Thr Ser Leu Glu Gly
241 100 105 110
242 Asn Cys Leu Ile Tyr Lys Val Lys Val Leu Gly Thr Asn Phe Pro Ala
243 115 120 125
244 Asp Gly Pro Val Met Lys Asn Lys Ser Gly Gly Trp Glu Pro Ser Thr
245 130 135 140
246 Glu Val Val Tyr Pro Glu Asn Gly Val Leu Cys Gly Arg Asn Val Met
247 145 150 155 160
248 Ala Leu Lys Val Gly Asp Arg Arg Leu Ile Cys His His Tyr Thr Ser
249 165 170 175
250 Tyr Arg Ser Lys Lys Ala Val Arg Ala Leu Thr Met Pro Gly Phe His
251 180 185 190
252 Phe Thr Asp Ile Arg Leu Gln Met Leu Arg Lys Glu Lys Asp Glu Tyr
253 195 200 205
254 Phe Glu Leu Tyr Glu Ala Ser Val Ala Arg Tyr Ser Asp Leu Pro Glu
255 210 215 220
256 Lys Ala Asn
257 225
260 <210> SEQ ID NO: 9
261 <211> LENGTH: 684
262 <212> TYPE: DNA
263 <213> ORGANISM: heteractis crispa
265 <400> SEQUENCE: 9
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267 ggccattatt tcaagtgtga aggagaggga gacggcaacc catttgcagg tacgcagagc 120
268 atgaggattc atgtcaccga aggggctcca ttaccatttg ccttcgacat tttggcaccg 180
269 tgttgtgctg acggcagcag gacctttgtc caccatacgg cagagattcc cgatttcttc 240
270 aagcagtctt tccctgaagg ctttacttgg gaaagaacca caacctatga agatggaggc 300
271 attcttactg ctcacagga cacaagcctg gaggggaact gccttatata caaggtgaaa 360
272 gtccttggtg ccaattttcc tgctgatggc cccgtgatga agaacaatc aggaggatgg 420

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VERIFICATION SUMMARY

DATE: 04/04/2006

PATENT APPLICATION: US/09/976,673A

TIME: 08:28:27

Input Set : F:\SEQLIST.TXT

Output Set: N:\CRF4\04042006\I976673A.raw

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